

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A printed circuit board, comprising:
- a first continuous power plane layer including a first segment for inputting current, a second segment for outputting current and a third segment for connecting said first and second segments, wherein a first electronic component is physically coupled to said first segment, a second electronic component is physically coupled to said second segment and said third segment is not coupled to an electronic component; and
- a first pair of adjacent conductive vias comprising corresponding end portions, each of said corresponding end portions terminate upon an upper surface of said first continuous power plane layer, each of said first pair of adjacent conductive vias coupled to different points on said third segment of said first continuous power plane layer, wherein a current transferred from said first segment to said second segment is determined by a potential difference and a resistance between said first pair of adjacent conductive vias.

2. (Original) The printed circuit board according to claim 1, wherein said first segment includes a plurality of conductive vias designed to obtain linear current flow between said first segment and said second segment.

Claims 3-9. (Canceled)

10. (Previously Presented) The printed circuit board according to claim 1, wherein said first segment comprises a rectangular geometry.

11. (Canceled)

12. (Original) The printed circuit board according to claim 1, wherein said first segment is electrically characterized for linear current flow.

13. (Original) The printed circuit board according to claim 1, wherein said third segment is capable of carrying current greater than about 20 amperes.

14. (Original) The printed circuit board according to claim 13, wherein said third segment is capable of carrying current from about 20 to about 40 amperes.

15. (Original) The printed circuit board according to claim 1, wherein said third segment is capable of carrying current less than about 20 amperes.

16. (Original) The printed circuit board according to claim 1, wherein a lookup table is utilized for current derivation correlated with the difference in potential measured at said first pair of conductive vias.

Claims 17-20. (Canceled)

21. (Currently Amended) The printed circuit board according to claim 1, wherein each of said first pair of adjacent conductive vias further comprises ~~an end portion which terminates on said third segment and another corresponding end portions end portion which terminates~~ , each of said another corresponding end portions terminate on a pad.